

WHAT IS CLAIMED IS:

1. A method for inspecting a metallic post that is contoured in a single dimension for defects, said method comprising:

clamping an eddy current probe having at least one jaw with a surface conforming to the contour to the metallic post, said at least one jaw also having a plurality of eddy current coils and said probe further having a sensor configured to sense at least one of position or motion;

operating the eddy current probe while clamped to produce data relating to structural integrity of the metallic post; and

moving the eddy current probe along the post while clamped and while sensing said structural integrity data and at least one of movement or position of the eddy current probe.

2. A method in accordance with Claim 1 further comprising utilizing a computer to store data concerning said structural integrity data and at least one of said movement or position of the eddy current probe.

3. A method in accordance with Claim 2 further comprising analyzing said stored data after completion of said storing of data to determine positions of structural integrity defects on the metallic post.

4. A method in accordance with Claim 1 wherein said metallic post is a dovetail post of a turbine engine.

5. A method in accordance with Claim 4 wherein the inspection is performed during a hot gas path outage.

6. A method for inspecting a metallic post that is contoured in a single dimension for defects, said method comprising:

clamping an eddy current probe having at least one jaw with a surface conforming to the contour to the metallic post, said at least one jaw also having a

plurality of eddy current coils and said sensor having at least one rubber wheel configured to move the eddy current probe along the metallic post;

operating the eddy current probe while clamped to produce data relating to structural integrity of the metallic post; and

moving the eddy current probe along the post using the rubber wheel while clamped and while sensing said structural integrity data.

7. A method in accordance with Claim 6 further comprising sensing at at least one of movement or position of the eddy current probe.

8. A method in accordance with Claim 6 further comprising accurately controlling movement of the eddy current probe.

9. A method in accordance with Claim 6 further comprising utilizing a computer to store data concerning said structural integrity data and at least one of said movement or position of the eddy current probe.

10. A method in accordance with Claim 9 further comprising analyzing said stored data after completion of said storing of data to determine positions of structural integrity defects on the metallic post.

11. A method in accordance with Claim 6 wherein said metallic post is a dovetail post of a turbine engine.

12. A method in accordance with Claim 11 wherein the inspection is performed during a hot gas path outage.

13. An apparatus for inspecting a metallic post contoured in a single dimension for defects, said apparatus comprising a clamp having at least one jaw with a surface conforming to the contour to the metallic post, said at least one jaw also having a plurality of eddy current coils and said probe having at least one sensor configured to sense at least one of position or motion.

14. An apparatus in accordance with Claim 13 further comprising a computer, and said clamp configured to transmit data from said eddy current coils and from said sensor configured to sense at least one of position or motion to said computer.

15. An apparatus in accordance with Claim 14 wherein said computer is configured to analyze said transmitted data to determine locations of defects in the metallic post.

16. An apparatus in accordance with Claim 14 having a storage device configured to store said transmitted data, and said computer further configured to analyze said stored data to determine locations of defects in a metallic post after said metallic post has been inspected.

17. An apparatus in accordance with Claim 13 wherein said at least one jaw conforms in shape to a matching dovetail post of a turbine engine.

18. An apparatus for inspecting a metallic post contoured in a single dimension for defects, said apparatus comprising a clamp having at least one jaw with a surface conforming to the contour to the metallic post, said at least one jaw also having a plurality of eddy current coils and said probe having at least one motorized wheel configured to accurately move said clamp along said metallic post while clamped thereto.

19. An apparatus in accordance with Claim 18 further comprising a computer, and said clamp configured to transmit data from said eddy current coils to the computer, and said computer configured to control said at least one motorized wheel and to record a position of said clamp on said metallic post.

20. An apparatus in accordance with Claim 19 wherein said computer is configured to analyze said transmitted data to determine locations of defects in the metallic post.

21. An apparatus in accordance with Claim 20 having a storage device configured to store said transmitted data, and said computer further configured to analyze said stored data to determine locations of defects in a metallic post after said metallic post has been inspected.

22. An apparatus in accordance with Claim 18 wherein said at least one jaw conforms in shape to a matching dovetail post of a turbine engine.